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# Field Service Procedure

Part Number: SP00249

Rev: -

Date: 28 June 2002

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**Repair Instructions:  
Julian PCB CIO 8601051**

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## Repair Instructions for PCB CIO 8601051

### 1. What is needed?

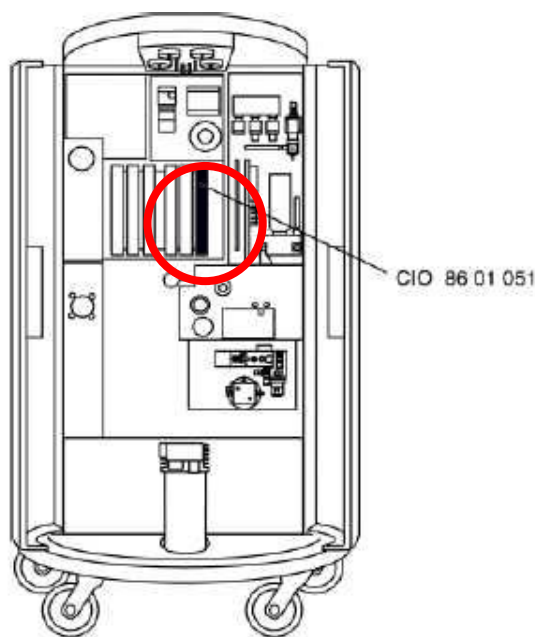
- a) Lithium battery- p/n 1835343
- b) Buss wire- Kynar insulated 30awg buss wire or equivalent
- c) ESD Kit (Electro-static discharge kit)
- d) Soldering Iron (15 W w/ fine-tip)
- e) Solder- Kester "44" Rosin core solder .031dia or equivalent
- f) Side cutters
- g) Needle-nose pliers

### 2. What is to be done?

**Warning:** This procedure should only be performed by professional technicians with electronic soldering experience. If not performed properly, damage to the PCB may occur.

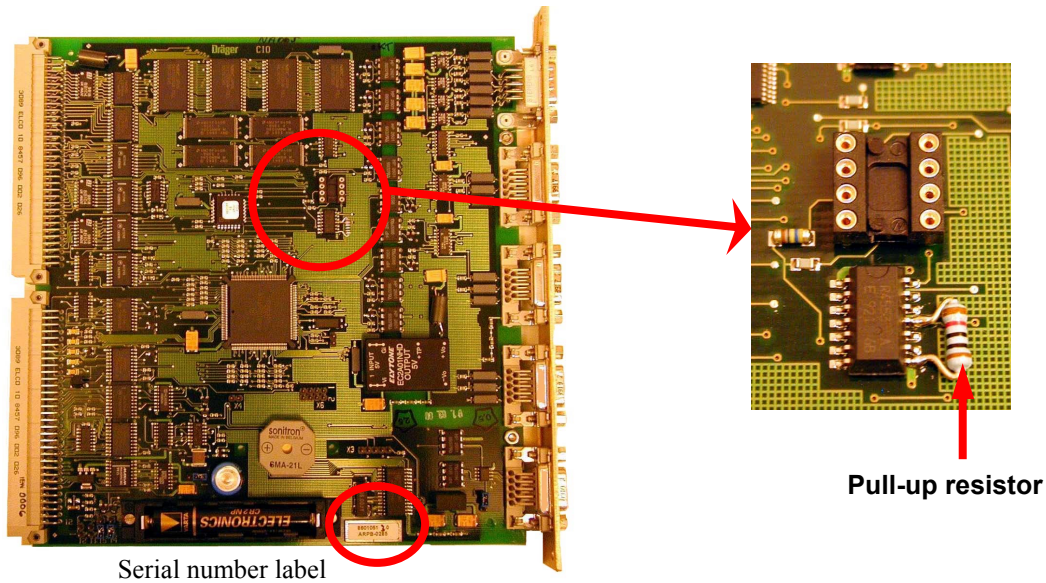
**Warning:** Electrostatic discharge can damage electronic components. When working on electronic equipment use an anti-static mat and a wrist strap (ESD Kit).

- 1. Remove power to Julian.
- 2. Remove upper left back panel.
- 3. Locate and remove PCB CIO and place on ESD mat. **See Figure 1.**



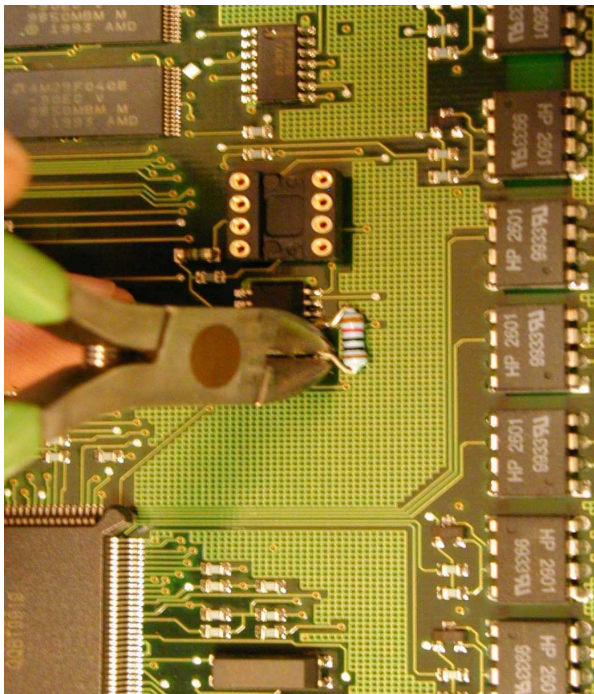
**Figure 1- CIO PCB Location**

4. Examine the area shown in **Figure 2**, on the PCB CIO. If there is a pull-up resistor present, remove lithium battery and continue with Step 5. If there is no pull-up resistor, no further action is necessary. Replace battery as necessary according to documented replacement interval, if necessary.

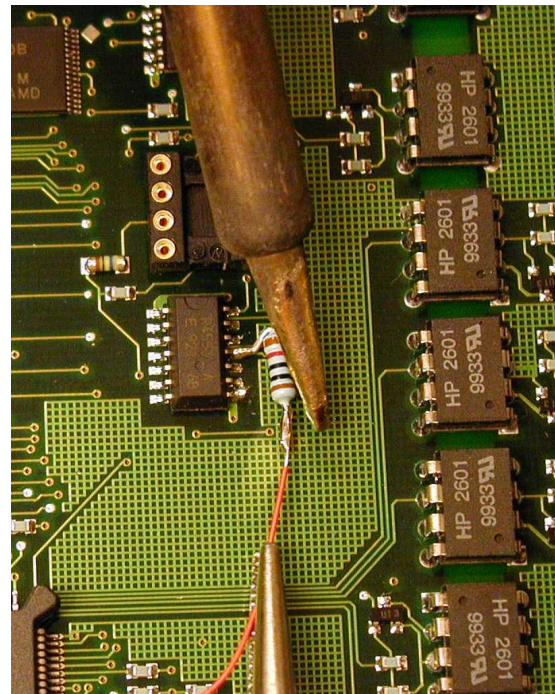


**Figure 2- Pull-up Resistor Location**

5. Using side cutters, cut the resistor leg from PIN 8 of the IC as close as possible to the IC (see **Figure 3**). Using the needle nose pliers, bend the resistor leg away from the IC so it is straight (see **Figure 4**).



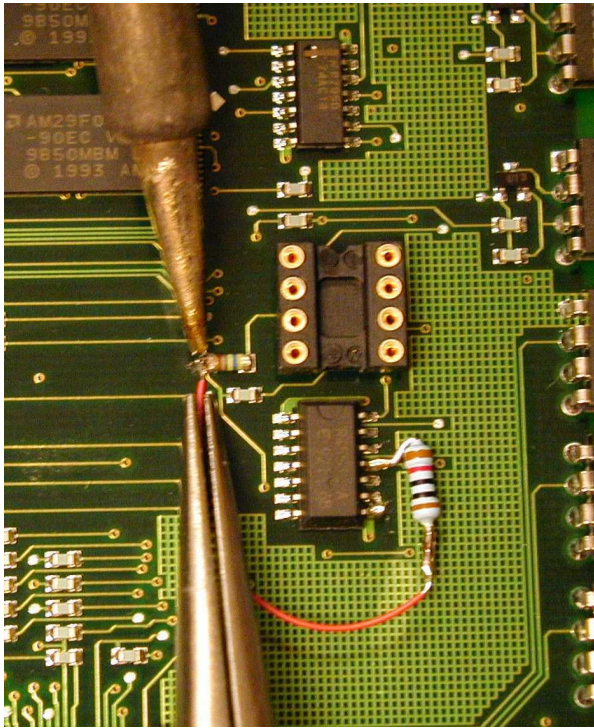
**Figure 3- Cutting the Resistor**



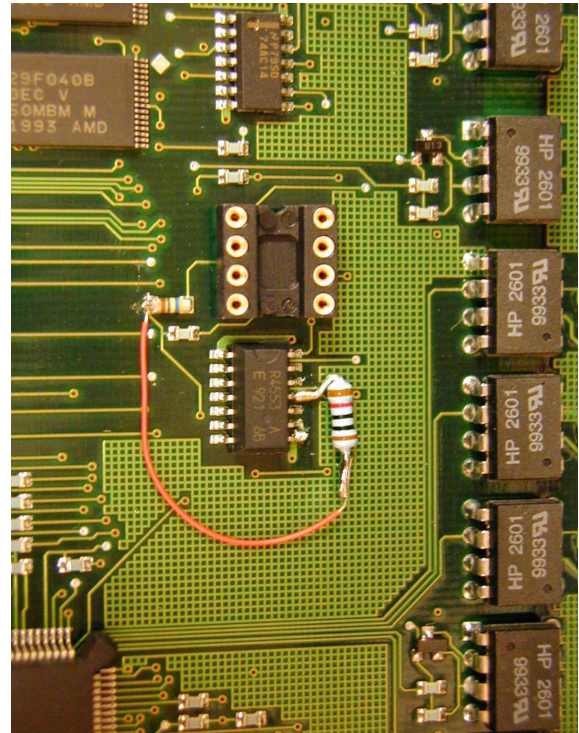
**Figure 4- Soldering Buss Wire to Resistor**



6. Briefly heat the unsoldered end of the resistor and attach one end of the buss wire. Take care to limit soldering so that the buss wire insulation does not melt and the soldered leg of the resistor does not become detached. (See Figure 4)
7. Attach the remaining loose end of the buss wire to the surface mount resistor as shown in Figure 5. Take care to limit soldering so the Surface Mount resistor does not become detached. For photo of completed rework see Figure 6.



**Figure 5- Buss wire to Surface Mount resistor**



**Figure 6- Completed Rework**

8. Locate the CIO PCB serial number label. Change revision of PCB from 3.0 to 4.0 with permanent pen. (See Figure 2)
9. Install new battery in CIO PCB. Install reworked CIO PCB in accordance with "Repair Instructions / Electronics / CIO PCB", section 27.5- "Replacing Battery on CIO PCB" of the Julian service documentation. Reconfigure machine to customer parameters.
10. Reinstall back panel. Supply power to Julian.
11. Perform Safety and Function Test.

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